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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/044,307	10/26/2001	Jerome Ciavatti	859063.502	6791

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EXAMINER

NHU, DAVID

ART UNIT	PAPER NUMBER
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2818

DATE MAILED: 04/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/044,307

Applicant(s)

CIAVATTI, JEROME

Examiner

David Nhu

Art Unit

2818

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 9-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTIONS

### ***Election/Restrictions***

1. *Applicant's election of Species I (Claims 1-8) in page No.7 is acknowledge.*  
*Claims 1-8 are present for examination. Accordingly, claims 9-25 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.*

### ***Claim Objection***

2. *Claims 1, 3, 4, 5 are rejected because "the entire structure" lacks a clear antecedent basis.*

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-8 are rejected under U.S.C 103(a) as being unpatentable over Background of Invention (BOI) in view of Ikemasu (5,693,970).

**Regarding claim 1**, BOI, figures 1-2A-C, pages 1-3, disclose a method for manufacturing a DRAM cell including two active word lines having a common drain/source region and having distinct source/drain regions contacting two memory points, comprising, after the forming of insulated conductive lines on a semiconductor substrate.

BOI fails to teach the steps of: depositing a first insulating layer; depositing a second insulating layer , selectively etchable with respect to the first insulating layer; etching the

second insulating layer to only maintain it above the insulated conductive layer, at least above an active region of the substrate; depositing and leveling a third thick insulating layer selectively etchable with respect to the second insulating layer; forming an opening, the first and third insulating layer to at least partially expose the common drain/source region and an insulating trench; depositing a conductive material to fill the previously-formed opening; performing a chem-mech polishing of an entire structure; and depositing a fourth insulating layer, selectively etchable with respect to the third insulating layer.

However, Ikemasu, figures 1-7, and related text on col. 1-14, (figures 3A-3H, 4A-4H, col. 8, lines 40-67, col. 9-10, lines 1-67), teach the steps of: depositing a first insulating layer 16; depositing a second insulating layer 17, selectively etchable with respect to the first insulating layer; etching the second insulating layer to only maintain it above the insulated conductive layer, at least above an active region of the substrate 1; depositing and leveling a third thick insulating layer 18 selectively etchable with respect to the second insulating layer; forming an opening, the first and third insulating layer to at least partially expose the common drain/source region 23, 24 and an insulating trench 15; depositing a conductive material 13 to fill the previously-formed opening; performing a chem-mech polishing of an entire structure; and depositing a fourth insulating layer 19, selectively etchable with respect to the third insulating layer.

Regarding claims 2-8, see BOI, page 1-3, and Ikemasu, col. 1-14

It would have been obvious to one having ordinary skill in the art at the time of the present invention to apply the teachings of Ikemasu into the method of BOI as both are related to the

same subject matter of producing a DRAM device having first, second, third, and fourth insulating layers which are etched with selectively etchable by etching process.

### Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Jeng'734, Lin'790, Ema'126 are cited as of interest.
5. A shortened statutory period for response to this action is set to expired 3 (three) months from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned (see 710.02 (b)).
6. Any inquiry concerning this communication on earlier communications from the examiner should be directed to David Nhu, (703) 306- 5796. The examiner can normally be reached on Monday-Friday from 7:30 AM to 5:00 PM. The examiner's supervisor, David Nelms can be reached on (703) 308-4910.

*The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7724.*

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956

David Nhu 



April 14, 2003